Prototype of DDIST and STMGT Capabilities to Cover Mixed Large and Small Requests

Software and Physical Architecture:

STMGT will run the following process on an SGI which has a mount point for the AMASS cache and a mount point for RAID configured for Read Only Cache and staging: EcDsStStagingDiskServer, EcDsStArchiveServer, EcDsStStagingMonitorServer. The following process will have to run on a Sun workstation to which there is a 4mm tape stacker attached: EcDsSt4mmTapeServer. DDIST will run the following server on the same Sun which hosts the 4mm stacker: DsDdRequestManagerMain. The 4mm tape stacker should be on a Sun which is not being used by the Landsat/Aster integration team (which will be accessing an 8mm stacker). The 4mm tape stacker should have a minimum of two working tape drives. (The stacker that resides in Calin's office has only one serviceable drive. There is a 4mm tape stacker in the mini DAAC which may have to be moved to the prototype area so the test can be done.) There will also have to be a print server (to a laser printer) on the Sun which hosts the EcDsStPrintServer. The STMGT GUI should be running on a Sun that is different from the one running the 4mm tape server (separateness is not essential but reflects the final software/hardware mapping). There needs to be an instance of the STMGT database on an SGI other than the one that is hosting the AMASS mount point (again separateness is not essential).

The amount of raid required for Read Only Cache and Staging should be enough to allow for the archive and staging of all of the data for the large request and all of the data for at least two of the small requests (unless the data is the same for all of the small requests in which case the size of the cache needs to be sized for the combination of a large request and a small request. That size is currently anticipated to be 42 gigabytes). We need to have at least 80 4mm tapes for the testing and 100 tapes would be preferred.

Not essential but needed for completeness, the DDIST GUI should be run on a Sun other than the one running the DDIST server. This would be complemented by the additional STMGT server EcDsStPrinterServer which would be used to print the packing slip.

Prototype Methodology:

There will be 2 scenarios: one using the same data and one using different data. Each scenario will be run twice. Once for a disk based archive and a second time for an archive that is using the AMASS software.

Initial State for Disk Based Scenario: All of the DCE entries for the needed servers running in the agreed upon mode will have been set up and the associated keytab files will have been created. The Process Framework and application specific configuration files should have been set up. The configuration for the EcDsStArchiveServer should point to a disk based archive location rather than the AMASS mount point. STMGT resource database will be configured to have the information for the 4mm tape drives added. The STMGT and DDIIST servers will then be brought up on their respective hosts. Tapes will be loaded into the 4mm tape stacker, and the STMGT stacker GUI will be used to initialize the resource database with the tape id, slot number, and access (must be set for Read/Write) for each tape in the stacker.

Initial State for AMASS based Scenario: All of the DCE entries for the needed servers running in the agreed upon mode will have been set up and the associated keytab files will have been created. The Process Framework and application specific configuration files should have been set up. The configuration for the EcDsStArchiveServer should point to the AMASS mount point. STMGT resource database will be configured to have the information for the 4mm tape drives added. The STMGT and DDIIST servers will then be brought up on their respective hosts.

Same Data Scenario:
1. The DDIST test driver, DistTest, will be brought up in multiple (41) windows.
2. In one arbitrary window the large request will be sent.
3. In each window, DistTest will connect with the DsDdRequestManager and submit a request for the 4mm tape distribution of the test data associated with that run.

4. From the DDIST test output, the states of the each distribution can be monitored. The alternative (a very attractive one) is if the DDIST GUI is available, use the GUI to monitor the state of each request.
5. The state of the tapes and drives in the 4mm Stacker will have to be monitored with the STMGT stacker GUI.
6. When the stacker tapes are all used, the magazine will have to be removed from the stacker and the used tapes will have to be replaced with fresh tapes.
7. The STMGT stacker GUI will have to have the tape id loaded in for each slot in the tape stacker and the access set to Read/Write.